RECEIVED
CENTRAL FAX CENTER
AUG 2 9 2007

In the Claims:

Please amend claims 1 and 4-5, cancel claims 2 and 3, and add new claims 6-8 as indicated below. This listing of claims replaces all prior versions.

1. (Currently Amended) A magnetoresistive sensor for operation with a magnetized encoder~~, which~~ that is equipped with a zone with magnetic north and south poles arranged alternately along a direction of motion, the sensor comprising

a Wheatstone bridge configuration with

a first bridge arm between a first supply terminal and a first signal output terminal of the Wheatstone bridge configuration,

a second bridge arm between the first supply terminal and a second signal output terminal of the Wheatstone bridge configuration,

a third bridge arm between a second supply terminal and the first signal output terminal of the Wheatstone bridge configuration, and

a fourth bridge arm between the second supply terminal and the second signal output terminal of the Wheatstone bridge configuration,

wherein each of the bridge arms ~~comprises~~ includes an ohmic resistance element with a resistance-value dependence on the magnetic field strength of a magnetic field influencing the ohmic resistance element in accordance with a defined characteristic, the resistance-values of each of the ohmic resistance elements varying in phase with one another, characterized in that the characteristics of the ohmic resistance elements in the first and fourth bridge arms are selected to be at least essentially matching with each other and significantly different from the characteristics, selected to be at least essentially matching with each other, of the ohmic resistance elements in the second and third bridge arms.

2. (Canceled) A magnetoresistive sensor as claimed in claim 1, characterized in that the resistance values of the ohmic resistance elements in two bridge arms with characteristics selected to be at least essentially matching with each other are at least essentially constant over the magnetic field strength of the magnetic field to which the ohmic resistance elements are exposed.

3. (Canceled) A magnetoresistive sensor as claimed in claim 2, characterized in that the ohmic resistance elements with resistance values that are at least essentially constant over the magnetic field strength of the magnetic field to which the ohmic resistance elements are exposed are designed with a magnetic screening.

4. (Currently Amended) A motion and/or speed measurement device ~~with~~ comprising:

a magnetized encoder ~~which~~ that is equipped with a zone with magnetic north and south poles arranged alternately along a direction of motion, ~~characterized by~~ and

a magnetoresistive sensor as claimed in claim 1.

5. (Currently Amended) A motion and/or speed measurement device as claimed in claim 4, ~~characterized by~~ further comprising a frequency evaluation device~~, which~~ that is coupled at one input with the signal output terminals of the Wheatstone bridge configuration and that, at one output, emits a signal which constitutes a measure of the frequency of a signal emitted by the magnetoresistive sensor.

6. (New) A magnetoresistive sensor as claimed in claim 1, wherein the resistance-values of each of the ohmic resistance elements have maximum values that are equal to one another.

7. (New) A magnetoresistive sensor as claimed in claim 1, wherein, in response to a change in the magnetic field strength, the resistance-values of the ohmic resistance elements in the first and fourth bridge arms change at a rate that is different than a rate at which the resistance-values of the ohmic resistance elements in the second and third bridge arms change.

8. (New) A magnetoresistive sensor as claimed in claim 1, wherein, in response to a change in the magnetic field strength, the resistance-values of the ohmic resistance elements in the first and fourth bridge arms change at a rate that is different than a rate at which the resistance-values of the ohmic resistance elements in the second and third bridge arms change, where the rates are set to produce a frequency at the first and second signal output terminals that is double a frequency produced by one of the rates of change.